

REDUCING LISTERIA ON READY-TO-EAT MEATS

PhageGuard
FOOD SAFETY POWERED BY NATURE



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Listeria on RTE meats

Listeria contamination is typically found on the outside of cooked meat products. RTE products are especially at risk since Listeria continues to grow at refrigeration storage temperatures. We work closely with major spray equipment suppliers to offer an optimal application solution.

Dosage	0.2 - 1% solution shows significant kill of Listeria on RTE meats.
Distribution	0.2 – 0.5% pick up levels offers full coverage on smooth or rough product surfaces respectively.
Application technique	Spray onto product prior to packaging or Sprayed Lethality in Container (SLIC) method or spray onto slicer blade/dice blades or other food contact surfaces.
Contact time	Allow minimum of 30 minutes before the next surface intervention or grinding.

Effectiveness of PhageGuard L on RTE meats ✓

Effectiveness of the PhageGuard L has been verified to provide >1 log kill by scientific researchers on various ready-to-eat meats such fermented pork sausage¹, dry cured ham², cooked turkey and roast beef³. Research shown in the next pages shows bacterial reductions on RTE meats when phage treated with the recommended concentration of PhageGuard L.

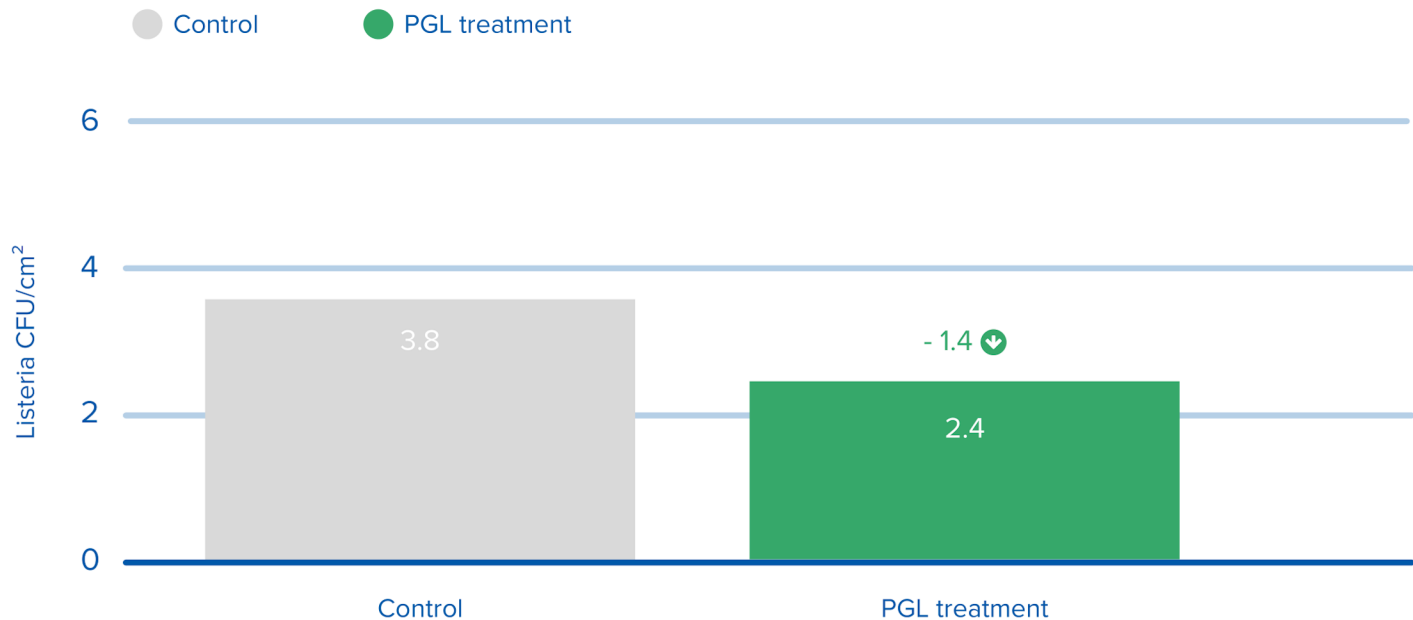
General recommendation

- ✓ PGL bottle sizes 100ml + 1L
- ✓ Recommended storage temperature 39.2° F (4 °C) to 44.6° F (7 °C) for concentrated PGL.
- ✓ Ensure no chemical residues are present in containers used for PGL dilution.
- ✓ Dilute concentrated PGL in water that is chlorine free (< 1 ppm free Cl level) and is at temperature < 68 ° F (<20 °C).
- ✓ Do not re-use and store diluted PGL for more than 18 hours at 39 - 44 ° F (4 - 7 °C).



Efficacy of PhageGuard L on beef Frankfurters

PhageGuard L provided more than 1.2 log kill of Listeria on Frankfurters. Products like this and similar such as hot dogs, sausages have smooth, even outer surface that can be easily spray treated with phage solution over roll stock machines or using spray lethality in container method.

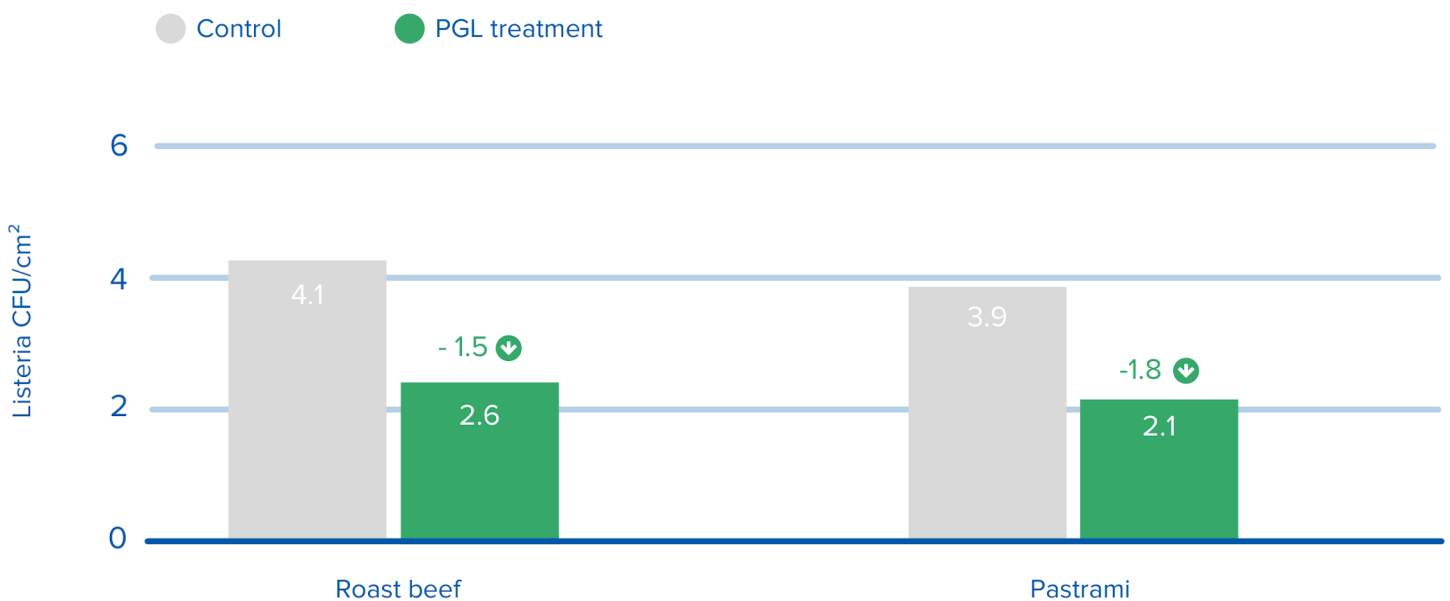


- ✓ 0.2% PhageGuard L provides more than 95% reduction of Listeria on Frankfurters in 48 hours.



Efficacy of PhageGuard L on roast beef and pastrami

Well distributed PhageGuard L on cooked whole muscle RTE products with uneven outer surface such as roast beef and pastrami can kill *Listeria* by more than 1.5 logs. Good distribution on whole muscles can be achieved by sprayed lethality in container or spray on food contact surfaces such as slicer/blades.



✓ 1% PhageGuard L provides more than 97% reduction of *Listeria* on different RTE meats in 24 hours.